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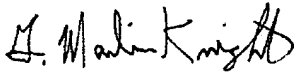|	
Application Number:	10/600221
Filing Date:	06-19-03
First Named Inventor	Hrle
Group Art Unit	2162
Examiner	G.. Colan
Atty. Docket Num.	SVL920030011US1

Pre-Appeal Brief Request for Review

The applicants have filed a Notice of Appeal and hereby request a review of the Examiner's decision under the pilot program established by the USPTO. (Official Gazette Notices - 12 July 2005).

The Commissioner is hereby authorized to charge payment of any fees required under 37 CFR 1.17 associated with this communication or credit any overpayment to the Deposit Account No. **09-0460.**

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Remarks

The Examiner rejected claims 1-33 under section 103(a) as being unpatentable over Kawamura, et al. 5778388, in view of Mosher, et al. 6785696. The Examiner cited Kawamura for all of the elements of claim 1 except for including a REDO point in checkpoint information for which Mosher was cited (col. 8, lines 66-67 and 1-3). Applicants respectfully disagree.

Each of applicants' independent claims 1, 9, 17, and 26 involve the use of a backup system lock and describe system actions while the backup system lock is taken. It is respectfully submitted that neither cited reference teaches the use of a backup system lock or the claimed specific actions executed while the backup lock is taken. Applicants claim 1 makes it clear that the backup system lock is held by a backup utility. Claim 1 will be used as the exemplary claim, but

most of the arguments apply to each of the independent claims. Claim 1 includes the following language:

> while a backup system lock is held by a backup utility, continues updating objects except for suspending actions that change an external file system catalog, suspending writing updates of objects that extend across a storage volume boundary; and freezing a REDO log point in checkpoint information while the backup system lock is taken by the backup utility.

Thus, the claim clearly includes the use of a backup system lock taken a backup utility and describes specific actions taken while the backup system lock is taken. Applicants' invention allows more efficient execution of the backup process by prohibiting only certain actions. Except for these limited actions, the database operation is allowed to continue normally.

The Examiner specifically referenced Kawamura col. 9, lines 33-35 and col. 9, lines 52-56 for the elements of claim 1 cited above. The entire paragraph encompassing col. 9, lines 33-35 is:

> Since the pages to be written in the database at the syncpoint are confirmed, the buffer pool is immediately unlocked (step 256). While the buffer pool is in the locked state, any input and output operations are inhibited for the external storages. This consequently leads to a short lock period of time in which only the CPU processing is executed. Thanks to this provision, the processing of transactions awaiting the unlocking of the buffer pool can be continuously executed. According to the output page control table list thus produced, for the pages to be written in the database at the syncpoint, a write request is issued to the deferred write processing part 25, thereby initiating the operation to write the pages in the database (step 257).

The Examiner interpreted Kawamura's teaching that any input and output operations are inhibited for the external storages when the buffer pool is in the

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locked state as implicitly being equivalent to applicants' claimed step of "continuing to update the data while the backup system lock is taken, except for suspending actions that change an external file system catalog, and except for suspending writing updates of objects that extend across a storage volume boundary." The Examiner's interpretation is incorrect for several reasons including that Kawamura is not teaching "continuing to update the data...." While applicants' claim allows the system to continue in most cases to write to the external storage, Kawamura prohibits all writing when the buffer lock is taken.

Kawamura col. 9, lines 52-56 are:

> Consequetly [sic], when such a write operation is achieved for another transaction, the counter 381 is decremented in response thereto such that synchronization is required to be established in operation until the value becomes zero.

Therefore, it is clear that that the cited sections of Kawamura is describing normal transaction processing, not processing during a backup operation of any kind, and, moreover, they do not describe the specific processing that occurs when a backup system lock is taken as applicants claim. The word "backup" does not even appear in searchable text of the patent. Kawamura is describing the standard operation of the database program.

It is respectfully submitted that the Examiner has erroneously interpreted the general buffer pool locks described in Kawamura as being locks used during backup process. For example, the Examiner cited to Kawamura col. 9, lines 7-9 as teaching a backup system lock. The cited section is:

> When the lock is reserved for the buffer pool, accesses to the buffer pool due to transactions are temporarily maintained in the wait state until the locked state is released.

Buffer pool locks are not backup system locks and, moreover, Kawamura does

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not teach using the buffer pool locks to trigger the same set of actions that applicants claim, nor is the buffer lock taken by a backup utility as claim 1 includes. This is not just a matter of the name applied to the lock, because the actions claimed by the applicants are different from the actions taught by Kawamura while the lock is taken.

The Examiner relied on the Mosher reference for including a REDO point in checkpoint information for which Mosher col. 8, lines 66-67 and 1-3 was cited. Therefore, the Examiner did not rely on Mosher to supply to missing teaching on processing during backup system locks. Mosher is non-analogous art to Kawamura, since Mosher deals with a method and system for backing up primary nodes onto backup nodes where the primary nodes can each originate a distributed transaction and can participate in a distributed transaction. (See Abstract). Mosher cannot be reasonably combined with Kawamura, since they are dealing with different subjects.

Thus, neither Mosher nor Kawamura teach the claimed use of a backup system lock taken by a backup utility nor the specific actions of suspending only actions that change an external file system catalog, and suspending writing updates of objects that extend across a storage volume boundary during the backup system lock.

Applicants' claim 1 includes "freezing a REDO log point in checkpoint information while the backup system lock is taken by the backup utility." The Examiner cited Mosher col. 8, lines 66-67 and 1-3 for REDO log points. However, neither Mosher or Kawamura teach freezing the REDO log when a backup system lock is taken as applicants claim. Moreover, the claimed action is not to the general use of a REDO log point, but rather to specifically freezing the REDO log point while a backup lock is taken in the context of the other elements of the claim.

The Examiner specifically referenced Kawamura col. 5, lines 38-41 for the step of storing log records and data records on separate volumes. The referenced lines are:

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The external storages 16 are used to respectively store therein databases 36a and 36b controlled by the database management system 20 and a log file 37 to store therein information of updated history related to database update operations.
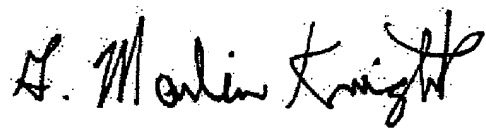
Applicants respectfully submit that the Examiner has erroneously referenced this section, since it does not teach "storing data on a first set of storage volumes and storing log records on a second set of storage volumes" as claimed in claim 17 or the other independent claims.

The Examiner's rejections of the dependent claims are believed to be overcome by the arguments above for the independent claims. None of the Examiner's citations for the dependent claims supply the missing teachings cited above.

Conclusions

Applicants' claims are directed at a specific way of taking a backup of a database using a particular storage arrangement and allowing particular actions to continue during the backup. Applicants respectfully submit that the references singly and when combined fail to teach claimed elements of applicants' claims. Applicants, therefore, believe that all of the claims in application are allowable.

Respectfully submitted,

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